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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,218	02/07/2001	Tsugunao Kobayashi	7217/63768	6644

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EXAMINER

NGUYEN, LEE

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,218

Applicant(s)

KOBAYASHI TSUGUNAO

Examiner

LEE NGUYEN

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-10, 12-14 and 16-18 is/are allowed.
- 6) ☒ Claim(s) 1, 11, 15, 19, 20, 24-29, 33 and 34 is/are rejected.
- 7) ☒ Claim(s) 21-23, 30-32 and 35-37 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the

contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 11, 15, 19-20, 24-29 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art figures 1-7 and specification pages 1-9 (referred to as the admitted prior art hereinafter) in view of Owen (US 5,241,691).

Regarding claim 1, the admitted prior art teaches a radio communication device (fig. 2) for radio communication using a predetermined frequency band, the device comprising: information signal detection means 114 for detecting an information signal transmitted from an other radio communication device (fig. 3); idle signal transmission means 116 for transmitting an idle signal that notifies the other radio communication device of an idle state of the predetermined frequency band and of non-detection of the information signal transmitted from the other communication device by the information signal detection means 114. The admitted prior fails to teach interference wave signal detection means for

detecting an interference wave signal transmitted within the predetermined frequency band, wherein the idle signal transmission means does not transmit the idle signal when the interference wave signal is detected. In an analogous art, in order to avoid corruption of a low duty cycle idle beacon (col. 3, lines 15-17) Owen teaches that the low duty idle beacon is transmitted from the primary station to the secondary station under the condition that the surrounding interference from neighboring equipment is at a sufficient low level (col. 5, lines 3-12). Therefore, with this teaching of Owen it would have been obvious at the time the invention was made to include the Owen's interference detection to the device of the admitted prior art in order to avoid corruption of idle signal.

Regarding claim 11, the claim is interpreted and rejected for the same reason as set forth in claim 1 in which the terminal device transmits the information signal according to a timing of receiving the idle signal transmitted from the base station (page 7, first paragraph of the admitted prior art).

Regarding claim 15, the claim is interpreted and rejected for the same reason as set forth in claim 11.

Regarding claim 19, the claim is interpreted and rejected for the same reason as set forth in claim 1 in which Owen also teaches using of an alternate channel that has no interference (col. 2, lines 15-21 of Owen).

Regarding claim 20, the admitted prior art as modified by Owen inherently teaches that the idle signal transmission means contains channel limiting information for limiting the frequency channels used for transmitting the idle signal out of the plurality of frequency channels in the idle signal because channels are limitedly assigned to the DECT system in Owen.

Regarding claim 24, the admitted prior art teaches a communication device for radio communication using one frequency channel, the device (fig. 3) comprising: idle signal reception means 124 for receiving an idle signal transmitted from an other radio communication device (fig. 2) using the one frequency channel to notify of an availability of the frequency channel (page 9, third paragraph); information signal transmission means 123 for transmitting an information signal to one of the other radio communication device and the origin of the idle signal according to a timing of receiving the idle signal (page 9, third paragraph), wherein the information signal transmission means 123 transmits the information signal using the frequency channel used for the transmission of the idle signal

(page 3, last paragraph). The admitted prior fails to teach using plurality of channels rather than only one channel. According to Owen, plural channels can be used for communication when interference occurs (col. 2, lines 16-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide plural channels of Owen to the system of the admitted prior art in order to avoid channel interference.

Regarding claim 25, the claim is interpreted and rejected for the same reason as set forth in claim 20.

Regarding claim 26, the admitted prior art as modified by Owen also teaches that the idle signal contains switch time information for switching the frequency channel used for the transmission of the idle signal and channel specifying information for specifying a channel used after the switching is performed; and the idle signal reception means switches to the frequency channel specified by the channel specifying information at the time specified by the switch time information (col. 5, lines 13-21 of Owen).

Regarding claim 27, the claim is interpreted and rejected for the same reason as set forth in claim 26 in which the admitted prior art also teaches the information signal reception means 122 (fig. 3) for receiving an information signal transmitted from the other radio communication device.

Regarding claim 28, the claim is interpreted and rejected for the same reason as set forth in claim 19 and 24.

Regarding claim 29, the claim is interpreted and rejected for the same reason as set forth in claim 25.

Regarding claim 33, the claim is allowable for the same reason as set forth in claim 19.

Regarding claim 34, the claim is allowable for the same reason as set forth in claim 25.

Allowable Subject Matter

6. Claims 2-10, 12-14, 16-18 are allowed.

Regarding claim 2, the prior art of record fails to teach interference wave signal transmission pattern estimation means as claimed in which the idle signal transmission means computationally determines a timing for the idle signal and the information signal transmitted from the other radio communication device when the idle signal does not overlap a transmission time of the interference wave signal and transmits the idle signal at the computationally determined timing.

Regarding claim 7, the prior art of record fails to teach interference wave signal detection means for detecting a signal level of an interference wave signal transmitted within the predetermined frequency band, wherein the idle signal transmission means transmits the idle signal by including level information indicating the signal level of the interference wave signal in the idle signal.

Regarding claims 8 and 12, the prior art of record fails to teach that the idle signal transmission means transmits the idle signal by including time length information indicating a time length available for forwarding the information signal from the other radio communication means transmitted in response to the idle signal without overlapping the interference wave signal based on the pattern estimated by the interference wave signal transmission pattern estimation means in the idle signal.

Regarding claim 9, the prior art of record fails to teach that the idle signal contains level information indicating a signal level of an interference wave signal transmitted within the predetermined frequency range; and the information signal transmission means transmits the information signal to a base station to indicate a detectable signal level determined based upon the signal level of the interference wave signal.

Regarding claim 10, the prior art of record fails to teach that the idle signal contains time length information indicating a time length available for signal transmission without overlapping the interference wave signal transmitted within the predetermined frequency range; and the information signal transmission means transmits the information signal in the time length available for signal transmission directed to a base station determined based upon the time length information.

Regarding claim 13, the prior art of record fails to teach that the idle signal transmission means transmits the idle signal by including information as claimed and the terminal communication device transmits information signal as claimed.

Regarding claim 14, the claim is allowable for the same reason as set forth in claim 8.

Regarding claim 16, the claim is allowable for the same reason as set forth in claim 2.

Regarding claim 17, the claim is allowable for the same reason as set forth in claim 7.

Regarding claim 18, the claim is allowable for the same reason as set forth in claim 8.

7. Claims 21-23, 30-32, 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 21, the claim is allowable for the same reason as set forth in claim 8.

Regarding claim 30, the claim is allowable for the same reason as set forth in claim 8.


Regarding claim 35, the claim is allowable for the same reason as set forth in claim 8.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is (703)-308-5249. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN CHIN can be reached on (703) 308-6739.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 2/29/04
LEE NGUYEN
Primary Examiner
Art Unit 2682